Appl. No. 10/731,604
Amdt. dated October 17, 2006
Reply to Office Action of May 18, 2006

PATENT

REMARKS/ARGUMENTS

Claims 1-20 are pending in this Application.

Claims 1, 9, 11, 14, 16, and 20 have been amended. Claims 1-20 remain pending in the Application after entry of this Amendment. No new matter has been entered.

In the Office Action, the Examiner rejected claims 1-20 under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 6,584,459 to Chang et al. (hereinafter "Chang").

Rejections Under 35 U.S.C. §102(e)

Applicants respectfully traverse the rejections and request reconsideration and withdrawal of the rejections based on Chang. In the Office Action, the Examiner rejected claims 1-20 under 35 U.S.C. § 102(e) as being anticipated by Chang. The Examiner makes the allegation that Chang teaches or suggests all of the claimed limitations of the corresponding claims. To anticipate a pending claim, a prior art reference must provide, either expressly or inherently, each and every limitation of the pending claim. (M.P.E.P. § 2131). Applicants respectfully submit that Chang fails to disclose at least one of the claimed limitations recited in each of the corresponding claims.

Claim 1

Claim 1 recites a method of searching unstructured data stored in a database. As recited in claim 1, unstructured data is stored in a column of a database table. In claim 1, a user is allowed to identify elements in the unstructured data as indexed elements. Further in claim 1, in response to the user-identified elements, an intermediate index into the unstructured data is created from the user-identified elements. As recited in claim 1, a user is then allowed to create queries on the unstructured data using the indexed elements.

Applicants submit that Chang does not teach or suggest the method of searching unstructured data as recited in claim 1. As recited above, a user is allowed to identify elements in unstructured data as index elements. An intermediate index into the unstructured data is then created in response to the user-identified elements. The intermediate index into the unstructured

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data in created from the user-identified elements. Accordingly, Applicants submit that Chang does not teach or suggest at least the feature of "in response to the user-identified elements, creating an intermediate index into the unstructured data from the user-identified elements" as recited in claim 1.

a) Searching unstructured data vs. Searching structured data

Applicants submit that Chang has nothing to do with searching unstructured data but rather relies on the structure of data to implement searching. In general, structured data conforms to a particular data type. In the context of relational database systems, unstructured data refers to data that can't be stored in rows and columns. This unstructured data must instead be stored in a binary large object (BLOB), a catch-all data type available in most relational database management system (DBMS) software.

Applicants disclosure and use of the term "unstructured data" is similarly consistent with the database context. Applicants disclose that electronic records are stored in an evidence store as unstructured data, such as data stored in character large object (CLOB) format, in a single column of a database table. (Specification: Paragraph 0048). In one embodiment, the unstructured data is a well-formed XML document stored within a single table or column of the database. While each XML document adheres to a structure (e.g., a particular DTD) and in one sense is thus structured data, the database column the XML document is stored in is unstructured in the sense that it can store XML data that adheres to a variety of DTDs and thus is not limited to storing data that adheres to a particular structure.

Chang, however, does not have anything to do with a method of searching unstructured data as recited in claim 1. Chang is clearly directed to the storage, retrieval, and searching of structured documents. (Chang: Title; Abstract; Col. 3, lines 30-33). Chang states that structured documents are documents that have nested structure. (Chang: Col. 2, lines 18-19). Chang further emphasizes a reliance on XML documents and their associated document type definition elements (or structure) to provide storage, retrieval, and searching that is not required in claim 1. (Chang: Col. 5, lines 12-14).

b) Creating an intermediate index into unstructured data

Applicants further submit that Chang does not teach or suggest creating an intermediate index into unstructured data in response to the user-identified elements as recited in claim 1, where the intermediate index is created from the user-identified elements. As recited in claim 1, the intermediate index into the unstructured data is created in response to the user-identified elements, which a user has been allowed to identify as indexed elements.

In contrast, Chang discloses that in order to search or query structure documents (Chang: FIG. 4, step S10), a database must be prepared (Chang: FIG. 4, step S3 and S4) before any types of indexes can be created based on user input (Chang: FIG. 4, step S7). In Chang, extenders define and implement complex data types and extend tables in the database with these data types, storing the attributes, structure, and behavior of the data types in columns of the extended tables. Chang (Col. 6, lines 17-20). To accomplish the extension of tables in a database, Chang discloses an abstract data type (ADT) called DB2XML which is created for storing and retrieving XML documents. Chang further discloses that the attributes of the ADT are used to store data and metadata of XML documents. (Chang: Col. 7, lines 44-47).

After the database is prepared, Chang discloses that a user may specify characteristics to create indexes directly on the attributes of the ADT that extend the database tables. (Chang: FIG. 10). FIG. 10 of Chang illustrates data structures, such as a hash table, B-tree, or linked list data structures used to directly index into an attribute (e.g., a2) of attributes stored in a column of a database table. As discussed previously, the attributes, structure, and behavior of the data types are stored in columns of the extended tables and prepared before the index was created.

Therefore, Applicants submit that that the processes of creating data structures that <u>directly</u> index into columns of a database table as disclosed in Chang does not teach or suggest creating an <u>intermediate index into unstructured data</u> as recited in claim 1. The indexes disclosed in Chang are <u>directly</u> associated with columns of a database table and therefore are substantially different from an intermediate index into unstructured data as recited in claim 1. Additionally, Applicants further submit that the processes of extending database tables <u>before</u> allowing a user to create indexes directly into columns of document attributes as disclosed in Chang does not teach or suggest creating an intermediated index as in claim 1 where <u>the intermediate index into the unstructured data</u> is created <u>in response to user-identified elements</u>.

Therefore, Applicants submit that Chang does not teach or suggest the feature of "in response to the user-identified elements, creating an intermediate index into the unstructured data from the user-identified elements" as recited in claim 1.

Based on the above, Applicants submit that Chang does not anticipate each and every claim limitation of claim 1. Therefore, Applicants submit that claim 1 is allowable.

<u>Claims 2-20</u>

Applicants submit that independent claims 9, 11, and 16 are allowable for at least a similar rationale as discussed above for the allowability of claim 1, and others. Applicants submit that dependent claims 2-8, 10, 12-15, and 17-20 that depend directly and/or indirectly from the independent claims 1, 9, 11, and 16 respectively, are also allowable for at least a similar rationale as discussed above for the allowability of the independent claims. Applicants further submit that the dependent claims recite additional features that make the dependent claims allowable for additional reasons.

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CONCLUSION

In view of the foregoing, Applicants believe all claims now pending in this Application are in condition for allowance. The issuance of a formal Notice of Allowance at an early date is respectfully requested.

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 650-326-2400.

Respectfully submitted,

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